

Q1 cont.

FK506, azathioprine, corticosteroids and monoclonal or polyclonal antibodies that are able to inactivate immune molecules or induce destruction of the immune cells carrying these molecules.

28. The composition according to claim 27, wherein the antibody is selected from among the anti-CD4, -CD2, -CD3, -CD8, -CD28, -B7, -ICAM-1 and -LFA-1 antibodies and CTLA4Ig.

RCJ
29. The composition according to claim 26, wherein the therapeutic gene encodes a therapeutic protein.

30. The composition according to claim 26, wherein the therapeutic gene encodes a therapeutic RNA.

Subt B3
31. The composition according to claim 26, wherein the immunoprotective gene is a gene whose product acts on the activity of the major histocompatibility complex (MHC) or on the activity of the cytokines.

32. The composition according to claim 31, wherein the immunoprotective gene is a gene whose product at least partially inhibits expression of the MHC proteins or antigen presentation.

33. The composition according to claim 26, wherein the immunoprotective gene is selected from the group consisting of a gene for gp19k of adenovirus, the ICP47 gene of herpes virus, and the UL18 gene of cytomegalovirus.

34. The composition according to claim 26, wherein the two recombinant DNAs of the adenovirus genome constitute a single transcriptional entity.

35. The composition according to claim 26, wherein the two recombinant DNAs each include an identical transcriptional promoter.

(1) cont.

36. The composition according to claim 35, wherein the two recombinant DNAs are inserted in the same orientation.

37. The composition according to claim 26, wherein the two recombinant DNAs are inserted into the same region of the adenovirus genome.

38. The composition according to claim 37, wherein the two recombinant DNAs are inserted within the E1, E3 or E4 regions.

39. The composition according to claim 26, wherein the two recombinant DNAs are inserted into different sites in the adenovirus genome.

40. The composition according to claim 39, wherein one of the recombinant DNAs is inserted within the E1 region and the other within the E3 or E4 region.

41. The composition according to claim 26, wherein the adenovirus is a defective recombinant adenovirus which encompasses the ITR sequences and a sequence permitting encapsidation and which carries a deletion of all or part of the E1 and E4 genes.

42. The composition according to claim 26, wherein the adenovirus concerned is an adenovirus from whose genome all or part of the E1, E3, L5 and E4 genes have been deleted.

43. A method for expression of a therapeutic gene from an adenovirus comprising consecutively or simultaneously administering an immunosuppressive agent and a recombinant adenovirus whose genome comprises a first recombinant DNA containing a therapeutic gene and a second recombinant DNA containing an immunoprotective gene, to a subject.

44. The method according to claim 43, wherein the recombinant adenovirus is administered in vivo.

Sub B4
Sub B5
cont.

45. The method according to claim 43, wherein the immunosuppressive agent is selected from the group consisting of cyclosporin, FK506, azathioprine, corticosteroids and monoclonal or polyclonal antibodies that are able to inactivate immune molecules or induce destruction of the immune cells carrying these molecules.

46. The method according to claim 45, wherein the antibody is selected from among the anti-CD4, -CD2, -CD3, -CD8, -CD28, -B7, -ICAM-1 and -LFA-1 antibodies and CTLA4Ig.

47. The method according to claim 43, wherein the therapeutic gene encodes a therapeutic protein.

48. The method according to claim 43, wherein the therapeutic gene encodes a therapeutic RNA.

49. The method according to claim 43, wherein the immunoprotective gene is a gene whose product acts on the activity of the major histocompatibility complex (MHC) or on the activity of the cytokines.

50. The method according to claim 49, wherein the immunoprotective gene is a gene whose product at least partially inhibits expression of the MHC proteins or antigen presentation.

51. The method according to claim 43, wherein the immunoprotective gene is selected from the group consisting of a gene for gp19k of adenovirus, the ICP47 gene of herpes virus, and the UL18 gene of cytomegalovirus.

52. The method according to claim 43, wherein the two recombinant DNAs of the adenovirus genome constitute a single transcriptional entity.